

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/518,923 Confirmation No.: 7277
Applicant(s): Christophe Bureau
Filed: 07/12/2005
Art Unit: 4152 Examiner: Gregory D. Clark
Title: SOLID SUPPORT COMPRISING A FUNCTIONALIZED ELECTRICITY CONDUCTOR OR SEMICONDUCTOR SURFACE, METHOD FOR PREPARING SAME AND USES THEREOF

Docket No.: 033339/286546
Customer No.: 00826

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

Sir:

This is in response to the communication dated July 2, 2009 which stated that the reply filed on May 20, 2009 is not fully responsive to the prior Office Action dated April 23, 2009, and requested the applicant to amend the claims to product claims.

Applicant's attorney wishes to confirm the telephone conference of today with Examiner Gregory Clark. Applicant's attorney pointed out that the response filed on May 20, 2009 has already reinstated the original product claims 1 – 7 and 22 as new claims 23 – 30.

The Examiner had earlier taken the position that method claims 1 – 7 and 22 were directed to an invention that is independent or distinct from the invention originally claimed as elected in response to the restriction requirement. Based upon the telephone discussion today with Examiner Clark, it is understood that the Examiner will treat current method claims 1 – 7 and 22 as being subject to restriction, non-elected and withdrawn from consideration, and he will proceed with an examination of product claims 23 – 30.

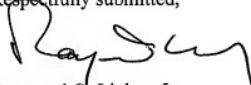
With regard to the previous prior art rejection, Applicant requests the Examiner to consider the remarks presented in the March 30, 2009 submission. Applicant submits that the differences between the cited prior art documents as described therein apply both to the method claims and to the newly presented claims directed to the solid support, and that the support is both novel and non-obvious from the prior art. The electrografted coatings of polymers

disclosed in Bertrand et al. allows the attachment of small molecules such as proteins, peptides, oligonucleotides, dyes, drugs and anti-bacterial compounds. However Bertrand et al. does not teach or make obvious the encapsulation of biocompatible polymers involving the use of a solid support with at least 90% of functional groups of interest accessible for the formation of a covalent, ionic or hydrogen bond with a complementary group, and in which the accessible functional groups of interest density is comprised between $10^4/\mu\text{m}^2$ and $10^{10}/\mu\text{m}^2$, in order to encapsulate macromolecules. Such macromolecules have complex three-dimensional structures and are usually difficult to attach to electrically conducting surfaces, and in particular to metals.

The advantages resulting from the specific method and support as claimed herein are demonstrated by Example 6 and Example 13 of the present patent application. These examples show that the encapsulation of macromolecules having complex three-dimensional structures such as polysaccharides (i.e., hydroxyethylcellulose in Example 6 and a functionalized dextrane in Example 13) is possible thanks to the great accessibility of the functional groups of interest on the electrografted coating used in the claimed method.

None of the prior art cited by the Examiner discloses such a specific solid support or method for encapsulating macromolecules having complex three-dimensional structures. Therefore, the combination of recited features as set forth in the claims of record is both novel and non-obvious. Favorable reconsideration by the Examiner is solicited.

Respectfully submitted,



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